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Application Serial No: 10/637, 081
In reply to Office Action of 22 August 2006

Attorney Docket No. 79790

REMARKS / ARGUMENTS

Claims 1-20 are currently pending in the application. Claims 9-14 are withdrawn from consideration. Claims 1-8 and 15-20 are rejected. No claims are objected to. No claims are allowed. Claims 1 and 7 have been amended by this response. No claims have been canceled or added by this response.

In paragraph 3 of Examiner's Office Action, the Examiner rejected claims 1-8 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for semi-fuel electrochemical cells used for undersea vehicle propulsion, does not reasonably provide enablement for a generic system, as claimed. In response to Examiner's rejection of claims 1-8 under 35 U.S.C. 112, first paragraph, Applicants have amended claim 1 to include language in the preamble of claim 1 that ties the claimed system to semi fuel electrochemical cells used for undersea vehicle propulsion. Applicants argue that the amended claim 1 is no longer directed toward a generic system and is thus allowable under 35 U.S.C. 112 first paragraph, and that claims 2-8 are allowable through dependency upon claim 1.

In paragraph 4 of Examiner's Office Action, the Examiner rejected claims 1-8 under 35 U.S.C. 112, first paragraph because the specification, while being enabling for catholyte particles and an encapsulating species to be dissolved upon contact of a hydrolyzing liquid, does not reasonably provide enablement for a

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hydrolyzing liquid. In response to Examiner's rejection of claims 1-8 Applicants have amended claim 1 such that the term "a hydrolyzing liquid" has been replaced by the term "a water solution" as described in the specification. Applicants argue that amended claim 1 is allowable under 35 U.S.C. 112, first paragraph, and that claims 2-8 are allowable through dependency upon claim 1.

In paragraph 5 of Examiner's Office Action, the Examiner repeated her position that it is unclear what a hydrolyzing liquid is. The Examiner also raised issues regarding uncertainty as to how the reaction rate of the catholyte particles is controlled and how heat dissipation should be addressed.

In response to Examiner's uncertainty as stated in paragraph 5, Applicants argue that the term "a hydrolyzing liquid" has been replaced by "a water solution." Applicants respectfully state that the Examiner has failed to direct her uncertainties to a specific claim or claims. As a result, Applicants are unable to respond to the Examiner's uncertainties regarding reaction rate and heat dissipation. Without a clear understanding of what claims the Examiner is referring to, Applicants cannot address any grounds for rejection and either argue or amend the claims accordingly. Applicants respectfully refer the Examiner to MPEP 2106 VII "The Office action should clearly communicate the findings, conclusions and reasons which support [any rejection]."

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In paragraph 7 of Examiner's Office Action, The Examiner rejected claims 1-8 and 15-20 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically Examiner states that it is unclear what is meant by "a controlled surface" in claim 1 as it applies to the instant invention.

In response to Examiner's rejection of claims 1-8 and 15-20 Applicants argue that a controlled surface was described in the specification on page 12, lines 10-12 as "that portion of the solid medium where the hydrolysis actually occurs." The controlled surface is illustrated as item 10 in FIG. 2 where item 10 is the only surface of the solid medium that is in contact with the liquid water solution 14.

In paragraph 8 of Examiner's Office Action, The Examiner rejected claims 1-8 and 15-20 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically Examiner states that it is unclear in claim 1 what a "hydrolyzing liquid" is as it pertains to the instant invention.

In response to Examiner's rejection of claims 1-8 and 15-20 Applicants reiterate that they have amended claim 1 such that the term "a hydrolyzing liquid" has been replaced by "a water

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solution" as described in the specification. Applicants argue that amended claim 1 is allowable under 35 U.S.C. 112, first paragraph, and that claims 2-8 are allowable through dependency upon claim 1. Applicants wish to point out that the term "a hydrolyzing liquid" does not appear in claims 15-20 and therefore state that there is no basis for the Examiner's rejection of claims 15-20.

In paragraph 9 of Examiner's Office Action, the Examiner states that claim 7 does not employ a proper means plus function clause because no function is specified by the words preceding "means" and cites Ex parte Klumb, 159 USPQ 694 (Bd. App. 1967). In response to the Examiner's statement Applicants would respectfully argue that, contrary to the Examiner's assertion, the word "means" is not preceded by the words "for recirculating and cooling of said hydrolyzing liquid", rather it is succeeded by these words. Applicants respectfully argue that the Examiner is in error when she states that a function must be "specified by the words preceding 'means'." In fact in Ex parte Klumb the court illustrates the proper form of a means plus function clause: "Thus, expressions, such as 'means for printing' or 'printing means', would have the same connotations and both would be in conformity with the statute." Ex parte Klumb 159 USPQ 694 (Bd. App. 1967) at page 695. Applicants argue that they have satisfied the formal requirements of the statute (35 U.S.C. 112,

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sixth paragraph) by following the format of "means for performing a specified function." In Applicants' case, the words "for recirculating and cooling of said hydrolyzing liquid" state the performance of a specified function, the function of recirculating and cooling. The function of recirculating was addressed in the specification on page 14, line 1. The equivalents are determined from a recirculating loop. The function of cooling was addressed in the specification on page 14 lines 2-4. The equivalents are determined from tube in tube heat exchanger, tube and shell heat exchanger, and or heat exchanger integrated to the underwater vehicle hull. Applicants amended claim 7 replacing the term "hydrolyzing liquid" with "liquid water solution."

In paragraph 10 of Examiner's Office Action, the Examiner states that claim 8 does not employ a proper means plus function clause because no function is specified by the words preceding "means" and cites Ex parte Klumb, 159 USPQ 694 (Bd. App. 1967). In response to the Examiner's statement Applicants would respectfully argue that, contrary to the Examiner's assertion, the word "means" is not preceded by the words "for introducing seawater to said recirculating means", rather it is succeeded by these words. Applicants respectfully argue that the Examiner is in error when she states that a function must be "specified by the words preceding 'means'." In fact in Ex parte Klumb the court illustrates the proper form of a means plus function clause:

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"Thus, expressions, such as 'means for printing' or 'printing means', would have the same connotations and both would be in conformity with the statute." Ex parte Klumb 159 USPQ 694 (Bd. App. 1967) at page 695. Applicants argue that they have satisfied the formal requirements of the statute (35 U.S.C. 112, sixth paragraph) by following the format of "means for performing a specified function." In Applicants' case, the words "for introducing seawater to said recirculating means" state the performance of a specified function, the function of introducing seawater. The function of introducing seawater was addressed in the specification on page 14, line 5-6. The equivalents are determined from pumps and valves.

Applicant respectfully suggests in view of these amendments and remarks that all grounds for rejection and objection have been removed by the foregoing response to Examiner's Office Action. Applicants state that no new matter has been added by this amendment, and that all of the remaining claims in the application are now believed to be in condition for allowance. Reconsideration and allowance of this application are therefore earnestly solicited.

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The Examiner is invited to telephone Jean-Paul A. Nasser, Attorney for Applicants, at 401-832-4736 if, in the opinion of the Examiner, such a telephone call would serve to expedite the prosecution of the subject patent application.

Respectfully submitted,
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26 October 2006

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